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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,581	12/29/2000	Brana Kukic	NC30313	8375
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DARBY & DARBY P.C.			MACE, BRAD THOMAS	
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2663

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/751,581

Applicant(s)

KUKIC, BRANA

Examiner

Brad T. Mace

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 12-29-00 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings are objected to because reference 54 is an inbound ATM cell stream to the transmitter. The arrow has reference 54 pointing as an outbound cell stream. Also, reference 52 is an outbound cell stream from the receiver, but the arrow has it pointing as an inbound cell stream. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because step 114 of Figure 2 should read: "set last min-rate equal to found max-rate". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the initial step of determining the characteristics of each link as described in the specification (lines 9-10 of pg. 7). This corresponds to Figure 2, step 102. Any structural detail that is essential for a proper understanding of the disclosed invention

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should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because a space is needed on line 13 between "(28)" and "and". Correction is required. See MPEP § 608.01(b).

6. The disclosure is objected to because of the following informalities: no serial number was provided for "Port Swapping for Inverse Multiplexed Digital Subscriber Lines". Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 6,002,670 ("Rahman et al.").

Regarding claim 1 and 2:

Rahman et al. teaches a system that determines transmission parameters (optimal transmission rate, maximum transmission rate) for passing a (ATM) cell stream from a first location 10 to a second location 14 (see Figure 3) at a rate specified by the preset requirements (desired transmission rate); see col. 2, lines 17-21. The reference teaches that a first unit 10 is coupled to one end of each of a plurality of data links 12

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(see Figure 3). The first unit assists in determining the transmission parameters (characteristics) of each of the links and transmits special cells (test signals) to determine the characteristics of each link, as shown by example in col. 2, lines 57-62. The reference also teaches that a second unit at the second location is coupled to the other end of each of the links (see Figure 3). The second unit assists in determining the characteristics of each of the links, as shown by example in col. 3, lines 9-10.

Regarding claims 3 and 4:

Rahman et al. teaches that one subset of transmission links can be selected among all the subsets determined for activation of inverse multiplexing in response to the chosen criteria (desired transmission rate); col. 5, lines 10-12. Since activation can only occur if the chosen criteria is met, this would infer that the total available transmission rate is at least equal to the desired transmission rate. Also, since a subset of transmission links are used to obtain the total available transmission rate, this would infer that the sum of the transmission links constitutes the total available transmission rate.

Regarding claim 5:

Rahman et al. teaches that the first unit receives a data stream and inverse multiplexes the data stream over at least two provisioned (trained) links selected from the links; see Figure 3, col. 3, lines 32-33, and col. 3, line 65.

Regarding claim 6:

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Rahman et al. teaches that the second unit receives and multiplexing the inverse multiplexed data stream from each of the links to produce the data stream (see Figure 3).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,002,670 ("Rahman et al.") in view of U.S. Patent No. 6,574,191 ("Usukura et al.").

Regarding claim 7:

Rahman et al. discloses substantially all the claimed invention but does not disclose expressly at least one data link selected from the links that is trained and set to idle status, wherein the first unit and the second unit switch to use the idle link to replace any one of the links that has failed and wherein the status of the idle link is changed to active.

Usukura et al. discloses that when a failure occurs on an intermediate transmission line (data link), use an intermediate transmission line (link) other than the intermediate transmission line (link) on which the failure occurred; col. 3, lines 21-25. In addition, when the failure in the intermediate transmission line is detected, the management system is notified of the occurrence and can avoid the impaired line

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without a delay in time (col. 12, lines 66-67, and col. 13, lines 1-5). The above infers that at least one transmission line (data link) is selected from the transmission lines (links) and is set to backup (idle) status, since it can be switched to without a delay in time. Rahman et al. taught above that the data links are provisioned (trained). Usukura et al. teaches that the first unit and the second unit switch to use another transmission line (idle link) to replace any one of the links that has failed; see Figure 2, and col. 3, lines 21-25. It is inherent that once the backup (idle) transmission line is activated for use, the status is changed to active.

A person of ordinary skill in the art would have been motivated to employ Usukura et al. in Rahman et al. in order to obtain a system that uses backup (idle) transmission lines (data links) so that when a failure occurs on an intermediate transmission line (data link), the sending device would use an intermediate transmission line (data link) other than the intermediate transmission line (data link) on which the failure occurred. The suggestion/motivation to employ Usukura et al. in Rahman et al. would have been to make the inverse multiplexing system of Rahman et al. more robust in response to transmission faults (data link failures), by switching to backup intermediate transmission lines (data links). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Usukura et al. with Rahman et al. (collectively "Rahman et al. – Usukura et al.") to obtain the invention as specified in claims 1, 5, 6, and 7.

Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahman et al. – Usukura et al. in view of the Applicant ("Kukic").

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Regarding claim 8:

Rahman et al. – Usukura et al. discloses substantially all the claimed invention but does not disclose expressly that the transmission lines (data links) can be trained at the optimal transmission rate and set to idle status. The Applicant discloses that known methods of inverse multiplexing use links that are trained at an optimal rate (lines 27-29, pg. 2 of the specification). Usukura et al. taught above that backup (idle) links are selected, and Rahman et al. taught above that data links are provisioned (trained).

A person of ordinary skill in the art would have been motivated to employ the Applicant in Rahman et al. – Usukura et al. to train the failed link at the optimal transmission rate and set it to idle status. The suggestion/motivation to train the failed transmission line (data link) at the optimal rate would have been to allow the backup (idle) transmission line (data link) to transmit data from the transmitter end to the receiver end at the same rate as the other transmission lines (data links). The suggestion/motivation to set the transmission line (data link) to idle status would have been to reuse the failed transmission (data link) should a failure occur in another transmission line (data link). At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine the Applicant with Rahman et al. – Usukura et al. (collectively Rahman et al. – Usukura et al.) to obtain the invention as specified in claims 1, 5, 6, 7, and 8.

Regarding claims 9, 10, and 11:

Rahman et al. – Usukura et al. discloses substantially all the claimed invention but does not disclose expressly that the transmission lines (data links) are trained at the

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optimal rate. The Applicant discloses that known methods of inverse multiplexing use links that are trained at an optimal rate (lines 27-29, pg. 2 of the specification).

A person of ordinary skill in the art would have been motivated to employ the Applicant in Rahman et al. – Usukura et al. to train the transmission lines (data links) at the optimal rate. The suggestion/motivation to train the transmission lines (data links) at the optimal rate would have been to allow the transmission lines (data links) to transmit data from the transmitter end to the receiver end at the same rate. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine the Applicant with Rahman et al. – Usukura et al. (collectively Rahman et al. – Usukura et al.) to obtain the invention as specified in claims 1, 9, 10, and 11.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Rochberger et al. discloses an apparatus and method for establishing a route utilizing multiple parallel segments in an asynchronous transfer mode network

*Iliev et al. discloses a system for internetworking data terminal equipment through a switched digital network

*Klassen et al. discloses a system and method for analyzing and tuning a communications network

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*An discloses an apparatus and method for detecting a data transmission rate

*Gittins et al. discloses a communication network with bandwidth managers for allocating bandwidth to different types of traffic

*Hanko et al. discloses a method for managing communications over media of finite bandwidth

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (703)-306-5454. The examiner can normally be reached on M-F, with the exception of every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703)-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace
Examiner
Art Unit 2663


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